

1 1. A method comprising:
2 selectively severing a portion of a carbon
3 nanotube; and
4 functionalizing the exposed portion of the
5 nanotube.

1 2. The method of claim 1 including covering the
2 carbon nanotube with a mask, removing a portion of the mask
3 to expose a portion of said carbon nanotube and etching
4 away the exposed portion of the carbon nanotube.

1 3. The method of claim 1 including aligning a
2 plurality of carbon nanotubes, covering said plurality of
3 carbon nanotubes with a mask, selectively exposing the
4 selected portion of said aligned carbon nanotubes, and
5 selectively etching away exposed portions of said
6 nanotubes.

1 4. The method of claim 2 including using oxygen
2 plasma etching to etch the exposed portion.

1 5. The method of claim 2 including covering said
2 carbon nanotube with photoresist to act as a mask.

1 6. The method of claim 2 including covering said
2 carbon nanotube with silicon dioxide to act as a mask.

1 7. The method of claim 1 including covering the
2 carbon nanotube with a mask, exposing opposed end portions
3 of said carbon nanotube, etching both end portions, and
4 functionalizing both exposed end portions.

1 8. The method of claim 2 including coating said
2 exposed portion with a chemical to functionalize said end.

1 9. The method of claim 8 including exposing said end
2 portion to a chemical laden chemical including an amine or
3 carboxylic group.

1 10. The method of claim 3 including exposing said
2 functionalized end to a material that is chemically
3 attracted to said functionalized end.

1 11. A method comprising:
2 functionalizing the opposed ends of a plurality
3 of nanotubes;
4 arranging said nanotubes in parallel to one
5 another;
6 coupling said functionalized ends of said
7 nanotubes to opposed source and drain regions; and
8 forming a gate electrode over said nanotubes.

1 12. The method of claim 11 including functionalizing
2 said opposed ends differently and using a source region
3 which attracts one end of said nanotubes and a drain region
4 that attracts the opposite end of said nanotubes.

1 13. The method of claim 11 including selectively
2 severing the caps of each carbon nanotube and
3 functionalizing the exposed ends of said nanotubes.

1 14. The method of claim 13 including providing a
2 plurality of aligned nanotubes and covering said aligned
3 nanotubes with a mask.

1 15. The method of claim 14 including selectively
2 etching said mask to expose end portions of said nanotubes.

1 16. The method of claim 15 including etching to open
2 the ends of said nanotubes and functionalizing said opened
3 end.

1 17. A transistor comprising:
2 a source region;
3 a drain region;
4 a plurality of nanotubes extending between said
5 source and drain regions; and
6 a gate electrode over said nanotubes.

1 18. The transistor of claim 17 wherein said nanotubes
2 are parallel to one another.

1 19. The transistor of claim 17 wherein said nanotubes
2 are spaces equidistantly from one another.

1 20. The transistor of claim 17 wherein said nanotubes
2 have functionalized ends.

1 21. The transistor of claim 20 wherein said nanotubes
2 have opposed first functionalized ends coupled to said
3 source region and second functionalized ends coupled to
4 said drain region, said first functionalized ends attracted
5 to said source region and not said drain region.

1 22. The transistor of claim 17 wherein said nanotubes
2 are capless.